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November 5, 1992

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FROM: William Robison

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SUBJECT: CIEMAT Meeting

MESSAGE: See attached.

We are transmitting 04 page(s) (including this cover sheet). If the transmittal is not complete, please phone (510) 422-3885.

Areas of Cooperation between CIEMAT and LLNL

A. Resuspension — Comparison between Palomares (aridic, silica-clay soils) and Runit Island (Calcareous, basic soils).

Palomares - LLNL support of Palomares project

1. Activity particle size analysis of resuspended aerosols.
 - a. tilled soils
 - b. undisturbed soils
2. Resuspension flux and rate — these data are essential for the Spanish effort to model the transport of Pu from the contaminated areas to the city and other surrounding areas.
 - a. tilled soils
 - b. undisturbed soils
3. Supporting micrometeorology for the above tasks.
4. Personal samples — the possibility of such studies is to be evaluated by CIEMAT. There are psychological and political issues to be evaluated although both groups agree the data would be extremely valuable.

Runit Island

1. Activity particle size of resuspended aerosols.
2. Better characterization of the soils — Pu composition along the lines of CIEMAT's detailed studies of Palomares soils. CIEMAT has an interest in helping us with this detailed characterization so the comparative data will be based on the same procedures. This will be very useful to us.

B. Q.C./Split Samples

1. Soil — homogenized soils split into two fractions, one to Spain, one to U.S. Exchange of Palomares and Marshall Island soils.
2. Vegetation — ash procedures for split samples to be determined for various types of vegetation.
3. Air filters - single or composite air filters with one half of each filter going to each group.
4. Details of shipping samples between the U.S. and Spain will be worked out in the near future. CIEMAT recommended using the Embassies.

Areas of Cooperation Cont.

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- C. Review of chemistry procedures, especially for ^{241}Am .
- D. Effect of fertilizers on Pu migration down the soil column. Both groups agreed to review the possibility of such experiments at their test sites. We agreed to a cursory evaluation, if possible, to see if there is an effect great enough to warrant further expenditure of effort and money.
- E. Initial protocols and procedures are to be written by William Robison and exchanged with Emma Tranzo for review, alterations, and refinement. We also agreed to think about other areas where our cooperation in research would be of benefit to the Palomares project; Marshall Island.
- F. Preliminary schedule of visits and work. — A March/April 1993 visit by CIEMAT to LLNL to review chemistry procedures and establish details of the resuspension studies to be conducted in May/June 1993 at the Palomares site. WE will visit CIEMAT during the May/June trip to review laboratory procedures and particle size characterization methods and provide appropriate soil samples from the Marshall Islands.

Areal of Cooperation between CIEMAT and LLNL

General Schedule

- A. Draft protocols and procedures exchanged by mid-December 1992.
- B. Protocols for sample exchange and preparation for Q.C. /Split samples to be defined by mid-January 1993.
- C. Exchange of soil and vegetation samples could begin by late January or early February 1993. Current plans are for the exchange of five soil samples covering a range of ^{239}Pu and ^{241}Am activities (excluding extremely high activities) and three types of vegetation. Preliminary plans are CIEMAT will send LLNL ashed samples of tomato, watermelon, and pepper (sample selection at discretion of CIEMAT) and LLNL will send CIEMAT ashed samples of breadfruit, coconut meal, and papaya.

Results should begin to be available within two months of the exchange. Budget figures for the additional work will be made available to DOE in January.

- D. Visit by CIEMAT to LLNL in February/March 1993. Chemistry procedures will be reviewed. The details of the resuspension program will be finalized in detail at the time. Budget figures for the additional resuspension work will be made available to DOE in March.
- E. The cooperative field resuspension studies will be conducted in May/June 1993. Analytical work, data evaluation, and joint reports between CIEMAT and LLNL will be done as rapidly as possible within the framework of regular program commitments by both groups.

Some of the air filters collected during the resuspension studies will be split between CIEMAT and LLNL and will provide a third type of sample for the interlaboratory Q.C. effort.